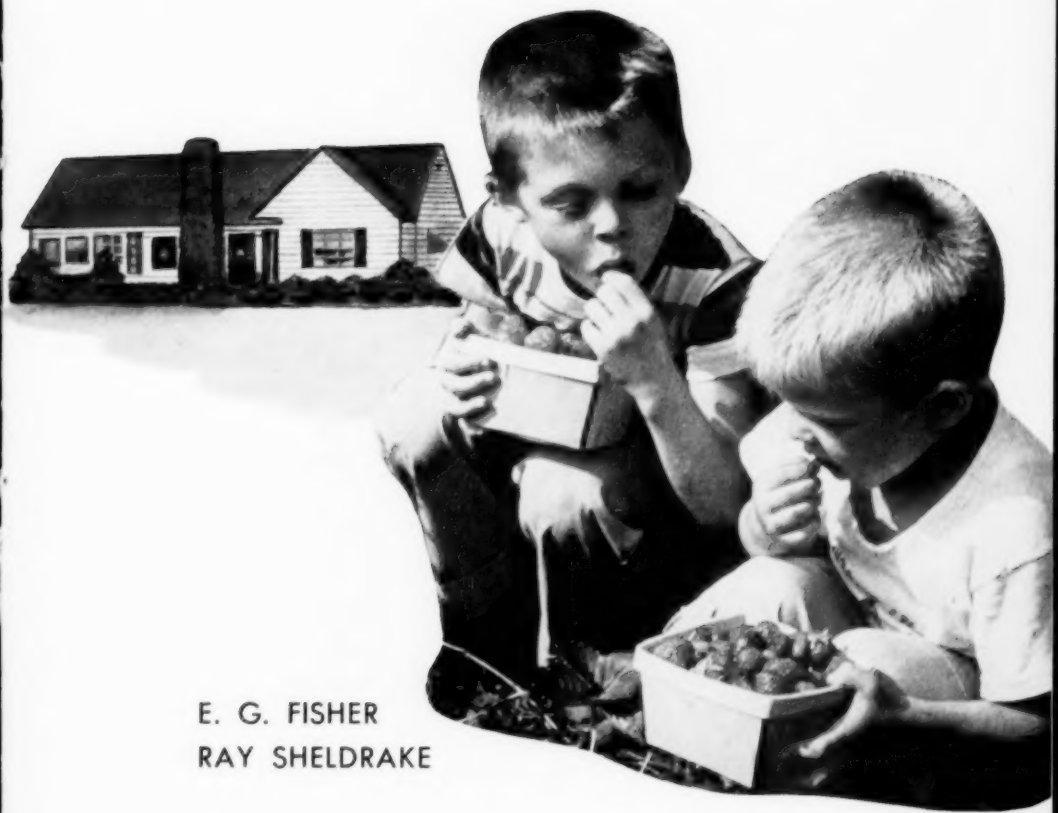
CORNELL EXTENSION BULLETIN 943

Growing Strawberries for Home Use



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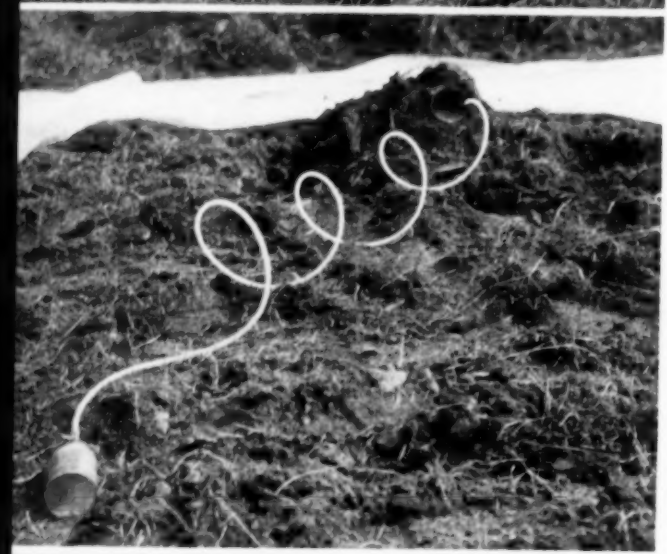

Figure 1. Equipment needed to fumigate soil for weed control

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E. G. Fisher and Ray Sheldrake

STANDARD OR JUNE-BEARING STRAWBERRIES

VARIETIES (in approximate order of ripening dates)

VARIETIES marked with an asterisk (*) are *best* for freezing; those marked with a dagger (†) are *fair* for freezing. The purchase of virus-free plants is always advisable.

**Midland*—Good quality. High yield. Early ripening.

†Premier—Fair quality. High yield. Early ripening.

†Catskill—Good quality. Good yield.

†Fairfax—High quality. Low yield.

Empire—Good quality. High yield. Very attractive berries.

†Robinson—Only fair quality. High yield.

**Sparkle*—A standard processing variety. A good home-garden berry.

SOIL

Good drainage is essential. Poor root growth and the Red Stele disease are potential problems on imperfectly drained soils. Low areas where late spring frosts are common are undesirable. White grub and weeds can be a problem in newly plowed sod. A soil relatively free of weeds is a distinct advantage. This may be accomplished if you plant the area to a clean cultivated crop and keep out all weed growth for a year. Planting the area to buckwheat the summer before setting strawberries is a help.

A recent development, the use of methyl bromide gas[1], kills all grass roots and weeds (including weed seed). Apply this chemical when the soil temperature is from 55° to 60° F. for the best kill. The soil should also be moist enough for good seed germination. You will generally find conditions for application most suitable in the early fall. The method is simple (figure 1):

1. Work the soil into good loose condition ready for planting.
2. Make mounds of soil from 12 to 15 inches high and about 8 feet apart.

[1] Methyl bromide is a poisonous gas. Do not leave the containers around the house where children have access to them. Buy only as many cans as you immediately use. Avoid breathing fumes from discharged cans!

3. Place a receptacle for the material next to one mound and insert the plastic tube supplied with the kit.[2]
4. Cover the area with the plastic cover and weight down the edges with a continuous layer of soil.
5. Discharge methyl bromide into the receptacle by use of the jiffy applicator. Leave the cover on for 24 hours. Remove the cover and wait at least 48 hours before setting the plants.

If done properly, the bed will be weed-free and will stay clean until weed seeds are dropped or blown in. More detailed information is supplied with the material.

FERTILIZERS

Manure is the best fertilizer for strawberries. When preparing the soil for planting, turn under from 3 to 4 bushels of manure per 100 square feet of garden area. You may apply from 1 to 1½ pounds of a complete fertilizer for each 20 feet of row as a side dressing several weeks after the plants are set and an additional ½ pound for each 20 feet about August 1. Brush all traces of the fertilizer from the leaves of the plant. Apply no fertilizer the spring of the fruiting year.

PLANTING AND SUMMER CARE

Harrow or rake the soil smooth as in any good gardening operation. Early spring planting is best for the home garden. If you cannot set the plants on arrival, hold them until planting time in the refrigerator with the roots in moist packing, or put the plants in a plastic bag. Soak the roots in water for an hour before you set them in the garden. Plant on a cloudy day or in the evening, and water after setting.

At the first cultivation, uncover any buds that have been planted too deeply. Shallow but frequent cultivation is necessary for adequate weed control. A weed killer[3] can be used in the early spring and again in the fall, but its use in mid-summer may reduce runner rooting. This material is strictly for pre-emergence weed control and is *not* effective on well-developed weeds. For home gardens, hoeing is probably the most effective weed-control method, but can be supplemented with any of the several types of chemical weed killers.

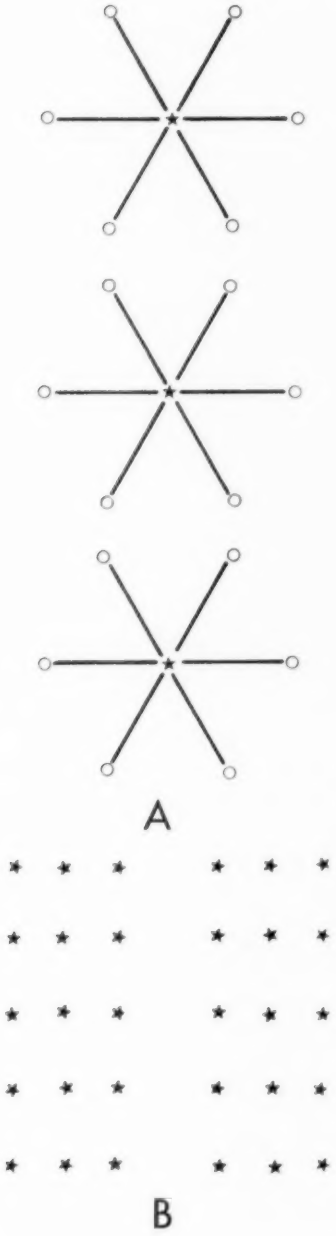
Remove all blossoms that form the year the plants are set.

The matted row

The most widely used method of training strawberries in the past has been the matted-row system. If the bed is relatively weed-free, the matted row may require less hand labor but produce somewhat lower yields than the hill system (page 5).

[2] Write the Department of Pomology, New York State College of Agriculture, Ithaca, New York, for information concerning where these kits may be purchased.

[3] Information on weed killers may be obtained from your County Extension Agent or from the Department of Pomology, New York State College of Agriculture, Ithaca, New York.



If you use the matted-row system, set the plants in rows from 3½ to 4 feet apart and about 1½ to 2 feet apart in the row. Straighten and spread the roots and press the soil in firmly.

Space the earliest formed runners so that no plants are closer than 6 inches apart. Keep the row width to 1½ to 2 feet, and remove later formed runners which crowd the early rooted daughter plants.

The hill system

Recent experiments by the New York State Agricultural Experiment Station at Geneva have indicated that yields from the hill system may be double or triple those from the matted row. The hill system may require slightly more hand labor.

Set the plants about 1 foot apart in the row, with rows 1 foot apart. Plant two to four such rows and then leave a 24- to 30-inch alley in which to work (figure 2, B).

Keep the runners removed from the mother plants throughout the life of the bed. Fruit is produced entirely from the plants which you set in the spring. The original plants will produce fruit for two or more years.

Irrigation

Summer irrigation may be helpful both in the first and in fruiting years. If irrigation is not convenient, use a sawdust mulch with the hill system as described under the summer care of everbearing strawberries (page 7).

Figure 2. Diagrams of a matted-row system (A) and a hill system (B)
Stars represent original mother plants, circles represent daughter plants.

Figure 3. A well-cared-for planting of the matted-row system

WINTER CARE

About mid-November, mulch the rows with wheat straw to a depth of 2 inches. Delay of straw removal in the spring until the foliage becomes slightly yellow, delays blossoming and offers some frost protection. When removing the mulch, place most of it in the row middle and leave some around the base of the plants.

EVERBEARING STRAWBERRIES

For best results, grow everbearing berries by the hill system. When properly managed, everbearing strawberries may yield as much or more than standard varieties, though the harvest extends over a longer period of time. For the home garden this may be of some advantage.

VARIETIES

Red Rich—High quality. Fair yield.
Superfection, Gem, Brilliant — Good quality. Good yield.

SOILS AND FERTILIZERS

Refer to standard varieties (pages 3 and 4).

PLANTING

Refer to the hill system with standard varieties (page 5).

SUMMER CARE

Control weeds with frequent hoeing and/or a chemical weed killer[4] until July 1 of the planting year. At this time mulch the plants with a 1- to 2-inch layer of sawdust. Any weeds that come through the sawdust should be pulled.

Remove all blossoms from newly set plants until early or mid-July. Continue blossom removal until the later date with the weaker plants.

Remove all runners from the mother plants as soon as any develop. Such treatment produces a large-branched crown in the originally set plants capable of good yields during the fall months and following years.

If you wish to raise your own plants, set out a few extra rows at the spacing suggested for the matted row with standard varieties (page 5) and allow daughter plants to develop.

Sawdust

Either hardwood or softwood sawdust can be used. A 1- to 2-inch layer of sawdust applied to the soil surface around the plants reduces most weed growth and conserves moisture. When the sawdust is applied, add 1 cupful of nitrate of soda or ½ cupful of ammonium nitrate for each bushel of sawdust used. This material can be sprinkled over the top of the sawdust and will be washed in.

About 10 bushels of sawdust are needed for every 100 square feet of planted area.

Satisfactory yields should be obtained from this system for at least two fruiting seasons.

THE STRAWBERRY PYRAMID AND THE STRAWBERRY BARREL

MANY home gardens may lack space for both vegetables and strawberries. In such places, one might use a strawberry pyramid or a strawberry barrel to provide this fruit.

THE PYRAMID

A strawberry pyramid consists of plants grown in a series of concentric circles arranged in pyramidal form, similar to a large birthday cake (figures 4, 5, and 6). Make four terraces, with the diameter of the basal terrace 56 inches; the second, 40 inches; the third, 24 inches; and the fourth, 8 inches. Such an arrangement is convenient and accommodates about three times more plants than a similar space in conventional gardening.

Make the walls of each terrace about 8 inches high. Strips of any thin sheet metal cut to this width and fashioned into a circular form serve the purpose.

[4] Refer to footnote 3, page 4.

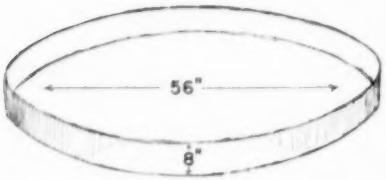


Figure 4. Basal terrace of a strawberry pyramid

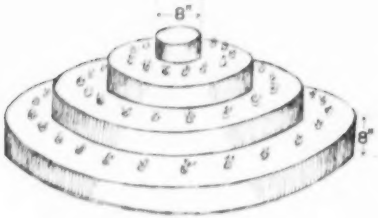


Figure 5. The completed pyramid

Supporting walls for strawberry pyramids are also available commercially.

For use in the pyramid, mix 1 bushel of manure with every 3 or 4 bushels of soil. It is well to allow the soil to settle in each terrace before you put the next one in place. Set the plants from 6 to 8 inches apart on the terraces. The hill system of culture, which involves the removal of all flower clusters and runners as soon as they appear, is adapted to the pyramid. Water the terraces during dry periods in mid- or late summer to help obtain a good yield of fruit. About mid-November cover the terraces with straw for winter protection.

THE BARREL

A standard wooden barrel (figure 7) may be more easily obtained, costs less, and requires a smaller amount of topsoil than does a pyramid.

Preparation

Make the holes in which the plants are set about 2 inches long and 1 inch wide. Drill two holes, one above the other, with a 1-inch bit. Space the holes from 7 to 8 inches apart in a row around the barrel, with similar spacing between rows. On the standard-size barrel there is room for about five parallel rows. Place the upper row about 5 inches from the top of the barrel and the lower row about 8 inches from the bottom. This accommodates from 40 to 50 plants. Drill four *holes* in the bottom or floor of the barrel, about mid-way between the center and the sides, to provide water drainage.

You need about three bushels of good garden soil, 1 bushel of well-rotted manure, 1 section of 3-inch drain tile, enough coarse sand to make a 2-inch layer on the bottom of the barrel and enough to fill the diameter of the tile from the bottom of the barrel to the top.

Planting

Place the barrel where it will receive as much daily sunshine as possible. Set it on three bricks to break contact with the ground and improve water drainage.

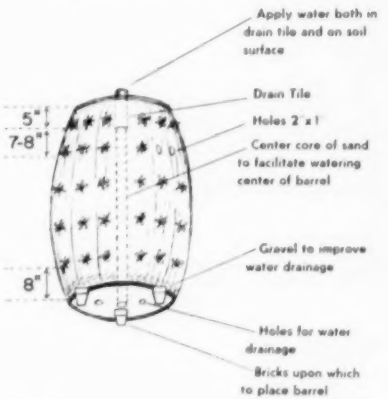
Place the drain tile on end in the center of the barrel floor, spread the

Figure 6. A strawberry pyramid

coarse sand or gravel evenly outside of the tile and fill the tile with sand. After thoroughly mixing the soil and manure, pour this mixture over the sand and around the tile. Slightly tamp and water the soil as you put it in place to settle the soil. When the soil level reaches the upper end of the lower barrel holes, set the first row of plants.

Set the plants on the horizontal near the top of the hole. This allows room for the crown and roots of the plant to settle with the soil mass. Otherwise, any settling would pull soil away from the roots and crowns and the plant would die. Spread the roots over the surface of the soil and allow the tip of the crown to protrude through the hole. It is important to set the plant so

Figure 7. The strawberry barrel


Apply water both in drain tile and on soil surface
Drain Tile
Holes 2" x 1"
Center core of sand to facilitate watering center of barrel
Gravel to improve water drainage
Holes for water drainage
Bricks upon which to place barrel
5"
7-8"
8"

that at least two-thirds of the crown is covered by soil. Add more soil with continued tamping and watering so that the plants are firmly set. When the soil level approaches the top of the tile section, carefully lift the tile three-fourths or more of its length. This leaves the core of sand in immediate contact with the soil surrounding it. Add more sand to the tile and continue the planting operation. Once the barrel is filled and all plants are set, leave the section of tile in place with its upper end slightly above soil level. This is convenient for supplying water through the continuous sand core to all lower sections of soil throughout the barrel.

Care

When you have added enough water to settle the soil, no further watering is needed until the plants begin growth and develop considerable leaf surface. Watering once each week during early summer should be enough. As the leaf surface grows larger and the weather becomes warmer, more frequent waterings will be necessary. When watering the lower levels through the sand core, use enough water to cause a free drip from the drain holes at the bottom. In the absence of weekly rains, those plants in the upper level at the top of the barrel will need watering.

Remove any flowers that develop for the first six weeks and cut off all runners as soon as they appear. For winter protection, cover the top and sides of the barrel with several inches of straw. This can be held in place with wraps of heavy cord. If there is a good supply of moisture in the soil when you prepare the barrel for winter, no further watering will be needed until you remove the straw and growth begins the following spring.

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